

Amendment to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (currently amended) An X-ray unit for generating imagings of a body, comprising:
 - a) an X-ray source (7);
 - b) an automatically adjustable collimator (6) including diaphragm and filter elements for limiting, locally attenuating and/or filtering an X-ray beam output from the X-ray source;
 - c) an X-ray detector (4) for detecting X-rays; and
 - d) a data processing unit (2) ~~that is~~ coupled to the collimator (6) and to the X-ray detector (4), wherein the data processing unit and that is designed to localize a region of interest (9) inside the body on at least a first X-ray picture of the body transmitted by the X-ray detector (4) and to transmit commands to the collimator to adjust the diaphragm and filter elements of the collimator (6) in accordance with a restriction of subsequent X-ray beams to the localized region of interest such that the subsequent X-ray beams and corresponding detected X-rays result in subsequent X-ray pictures that are concentrated on the localized region (9) of interest, wherein a concentration of the subsequent X-ray pictures includes (i) a best possible display of the localized region of interest and (ii) a blocking-out of all body regions not belonging to the localized region of interest, further including a smooth transition zone between the display of the localized region of interest and the blocking-out so that certain residual information remains detectable in the transition zone with reduced radiation exposure.
2. (currently amended) An X-ray unit as claimed in claim 1, ~~characterized in that the~~ wherein an irradiation field of the collimator (6) adjusted on the localized region (9) of interest is defined by an organ or part (10) of an organ.

3. (currently amended) An X-ray unit as claimed in claim 1, ~~characterized in that~~
wherein the region of interest (9) covers ~~the~~ possible positions of a body structure (10)
during a periodic movement of the body structure.

4. (currently amended) An X-ray unit as claimed in claim 3, ~~characterized in that~~
wherein the data processing unit (2) is further designed to determine the region of
interest (9) on the basis of a plurality of first X-ray pictures from different phases of the
periodic movement of the body ~~(5)~~ structure.

5. (currently amended) An X-ray unit as claimed in claim 1, ~~characterized in that~~
wherein the at least a first X-ray picture comprises first X-ray pictures that display a
contrast agent inside a vessel system of vessels and wherein the data processing unit
(2) is further designed to determine ~~the~~ a course of the vessels from ~~the~~ detection of the
contrast agent on the first X-ray pictures.

6. (currently amended) An X-ray unit as claimed in claim 1, ~~characterized in that it~~
~~comprises means for detecting~~ wherein the data processing unit is further designed to
detect a movement of the localized region of interest (9) of the body, and ~~in that the~~
~~data processing unit (2) is designed to~~ readjust the adjustment of the collimator (6) in
response to detection of movement of the localized region of interest such that the
concentration on the region of interest (9) remains intact.

7. (currently amended) An X-ray unit as claimed in claim 6, ~~characterized in that~~
wherein the data processing unit (2) is still further designed to estimate the movement
of the localized region (9) of interest from an image analysis of the subsequent X-ray
pictures.

8. (currently amended) An X-ray unit as claimed in claim 1, ~~characterized in that~~ wherein the data processing unit (2) is designed to move diaphragm and filter elements of the collimator (6) to a specified standard adjustment if the region (9) of interest cannot be localized or cannot be localized any longer with adequate certainty.

9. (currently amended) An X-ray unit as claimed in claim 1, ~~characterized in that it~~ wherein the data processing unit is further designed to undertake a three-dimensional localization of the region of interest from the first X-ray pictures, and in that the data processing unit (2) is furthermore designed to readjust the diaphragm and filter elements of the collimator (6) in the event of an alteration in the a recording direction while the subsequent X-ray pictures are being taken.

10. (currently amended) A method of generating X-ray pictures of a body, comprising ~~the steps of:~~

- a) generating at least a first X-ray picture of the body;
- b) ~~localization of~~ localizing a region (9) of interest inside the body on the first X-ray picture; and
- c) performing an automatic adjustment of diaphragm and filter elements of a collimator (6) in accordance with a restriction of subsequent X-ray beams to the localized region of interest such that the subsequent generated X-ray pictures are concentrated on the localized region (9) of interest, wherein a concentration of the subsequent X-ray pictures includes (i) a best possible display of the localized region of interest and (ii) a blocking-out of all body regions not belonging to the localized region of interest, further including a smooth transition zone between the display of the localized region of interest and the blocking-out so that certain residual information remains detectable in the transition zone with reduced radiation exposure.